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Ontario Department of Education

MIDSUMMER EXAMINATIONS 1918

Reports of the Departmental Examiners

RE

The Character of the Candidates' Answers
AND
The Teaching of the Subjects in the Schools

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Prefatory Note

Each year after the answer papers at the Midsummer Departmental academic examinations have been read by the Associate Examiners, each Section reports to the Minister any criticisms it has to offer of the question papers, the conduct of the examinations, and the teaching as judged by the candidates' answers. The Section reports have this year been submitted to the Examiners-in-chief as well, and any additional reports made by them on the character of the answers and of the teaching are included herein. The criticisms that directly affect the question papers and the conduct of the examinations the Department has found to be useful, and this year it continues the publication of such of the chief criticisms of the answer papers as are likely to prove useful to the teachers.

These criticisms justify the repetition of the substance of the Departmental statement which appears in the prefatory note in Circular 66 of 1917:—

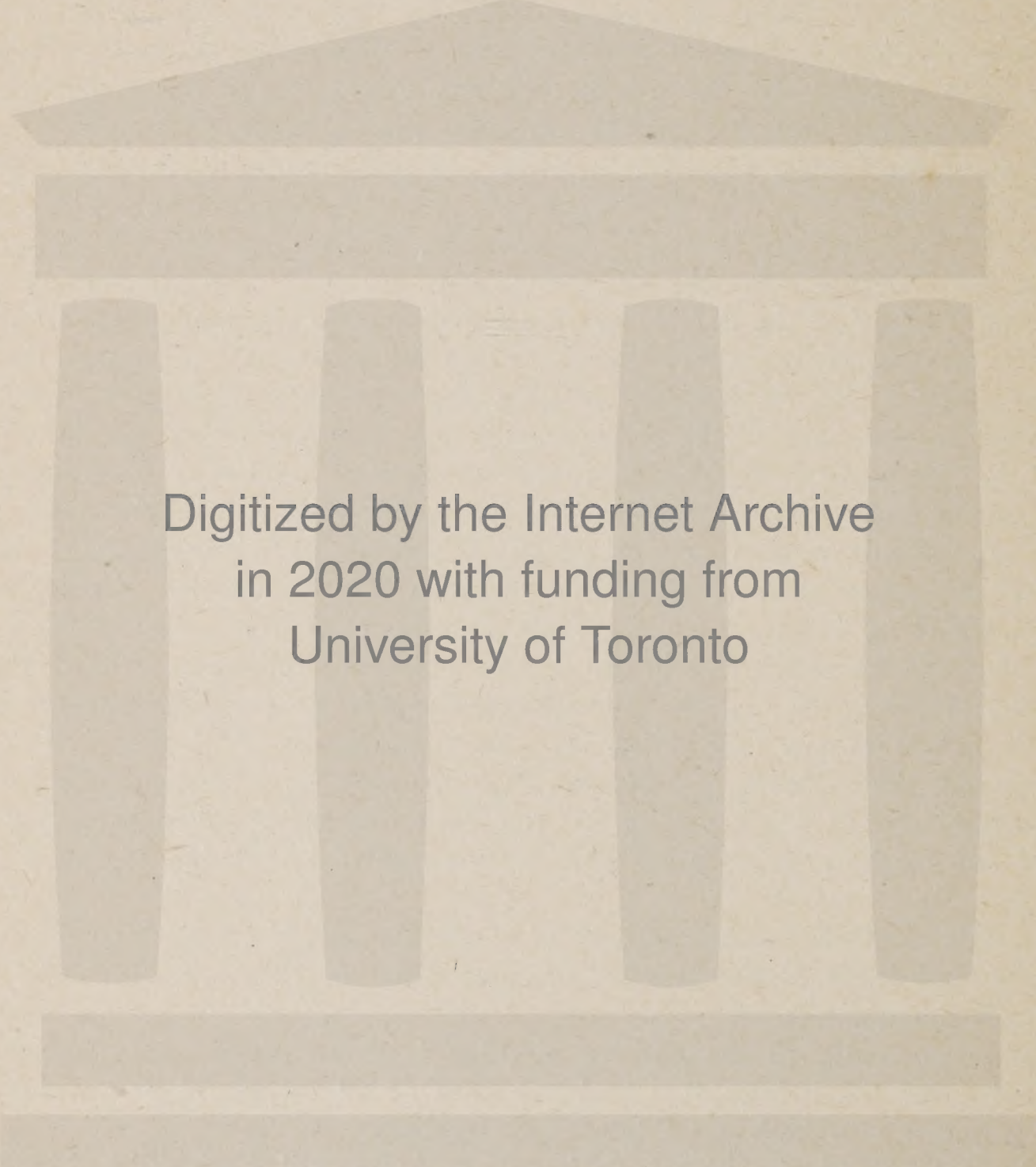
In most departments the answering appears to be improving from year to year. Very many of the defects are, no doubt, due to the inadequacy of the time spent by candidates in preparation for the examinations and to laxity on the part of some High School Entrance Boards, but there is evidently room for further improvement in the work of the Secondary Schools; in particular, greater attention should be given to spelling, writing, composition, accuracy, diagrams, logical arrangement, and reviews. In most subjects, under present conditions the question papers are difficult enough, and manifestly any raising of their standard should be gradual and commensurate with the progress of the schools. *An increasingly high standard is, however, indispensable in estimating the value of the answers.* With the exception of the Public and Separate School Diploma and the High School Entrance examinations, all the Departmental academic examinations are held to test the fitness of the candidates for admission to the Professional Schools for teachers, and the evidence at both the academic and the professional examinations demonstrates clearly the necessity for the steps now being taken to secure on the part of our teachers an accurate and comprehensive knowledge of the prescribed subjects.

In this connection, the teachers of candidates for the academic examinations will also find it profitable to read Circular No. 66, 1917, of which the present circular is the counterpart.

In an appendix to the present circular is given certain information which is intended for the information and guidance of all concerned and which should prove reassuring to both candidates and teachers.

The reports of the Matriculation Examiners will be published under the authority of the Matriculation Board of the Universities in a separate circular at a later date.

October, 1918.



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Lower School

ENGLISH GRAMMAR

On the whole the analysis was satisfactory, showing a marked improvement over that of former years. The parsing of infinitives and participles was also well done by the majority of the candidates, but the parsing of the other verb forms showed many defects, especially in the matter of tense. In parsing conjunctive pronouns also, the relating function was not made definite; and subordinate conjunctions should not be parsed as "joining clauses of which the verbs are," etc. Many candidates also failed to state the subclass to which the adverb clause belonged. Greater attention should be given to teaching the function of the different classes of connectives and phrases. The relation of adverbial objectives, predicate nominatives, and predicate objectives, and the reasons for the correction of errors in sentences should also be more clearly stated.

The answers also showed that candidates should be instructed to read the question paper carefully and to answer what is asked.

ENGLISH COMPOSITION

The standard of answering was, on the whole, higher than in previous years; in paragraph structure and in easy flow of language there was an improvement.

The greatest defect in the candidates' style was in their sentence structure; there are still too many who are content with stringing together several statements separated only by commas.

It was noted with satisfaction that some teachers had prepared their pupils on the following plan: "Introduction; Development; Conclusion."

The average pupil seems to have a more extensive background for his ideas than formerly; this may be due to the widespread discussion of the war and the problems related to it.

(See also the Chief Examiner's report under Upper School Composition.)

SPELLING

This year the punctuation showed a marked improvement over that of 1917.

The answer papers seem to indicate that, in some cases, the candidates are hampered either by the faulty acoustic properties of the room or by poor articulation on the part of the presiding officers.

There is room for further improvement in the use of hyphens and in dividing words into syllables at the end of a line.

In many instances, candidates have lost marks as the result of indistinct writing.

Candidates should be instructed to spell the words where numerals occur, not simply to write the numbers.

ENGLISH LITERATURE

In the memory work confusion in the lining of the poetical selections was common; evidently the candidates had very little knowledge of metre; and although in "Julius Cæsar" they showed a carefully prepared knowledge of the trend of events, the answers to the question requiring an interpretation of character often showed a surprising lack of competency.

BRITISH AND CANADIAN HISTORY

A decided improvement in the candidates' knowledge of Civics was noticeable.

Questions, however, such as those on Responsible Government and the Growth of the Party System, requiring a capacity for selecting and relating important details that are not closely connected in the text-books, were not well answered.

An improvement was noticeable in the form of the answering; the tabulated statement is gradually disappearing.

The question of Canada's part in the Great War was well answered, the excellence of the work being, no doubt, due, in large measure, to the use of the admirable Empire Day booklet supplied by the Department to the teachers of the Province.

GEOGRAPHY

The Section reports as follows on the different questions:

1 was poorly answered; the inaccuracy of the candidates in locating places showed plainly that the map geography had been neglected or at least not adequately reviewed.

2 and 3 were fairly well answered.

4 was fairly well answered, but the "reasons" given in Parts (b) and (c) were to a large extent a mere repetition of those given in Part (a).

5 was poorly answered; the candidates' notions were very vague as to the relation of the latitude, mountains, and sea, to the climate of Italy.

6 was poorly answered.

7 was a good representative question on physical geography and was well answered.

8 was a difficult question to mark because of the different ways in which candidates interpreted the meaning; in the answers the classifications of the kinds of soil were on three bases:

(1) Constituents: Sand, clay, loam, humus.

(2) Origin: Alluvial, Glacial, Volcanic, Lacustrine, etc.

(3) Relative position: Top-soil, sub-soil, and bed-rock.

Part a of 9 was poorly answered; many of the candidates did not show a proper conception of the meaning of "Solar System" and the answers indicated that this part of the course had been omitted or very poorly taught.

Part b on "Eclipse of the Moon" was well answered; it would be well, however, if teachers made clear the relation of the fact that the plane of the moon's orbit makes a small angle with the plane of the earth's orbit.

NOTE.—In map geography, frequent exercises in the location of places, physical features, and boundaries on blank outline maps are most beneficial.

The following report by the Examiner-in-chief on the specific needs in Geography teaching as shown by the candidates' answers is also submitted for the consideration of the teachers of the subject:

The questions in physical geography were answered much better than those dealing more directly with political and commercial geography.

There is need of more graphic presentations on the part of the teacher through a wider use of outline maps (Question 1), globes and models (Questions 5 and 9), and concrete materials (Questions 7 and 8), such as soils, rocks, minerals, and manufactured products which are the result of geographic conditions.

There is also need of a much better organization of the subject matter according to principles of (a) relationship, (b) induction and deduction. The teacher should recognize geography as a science and not as a hodge-podge of facts without

unity and relationship; a mere encyclopædic text-book knowledge does not furnish a background and basis for understanding events which grow out of geographical conditions.

More stress should be laid on training pupils to apply geographical principles in solving problems (Question 4). This will soon lead them to look for what is behind maps and text-book statements; they will be able to consider some of the more fundamental issues which arise from the fact that different peoples have different types of physical environment. In addition, if candidates have also been taught to fix definitely through the eye the positions of countries in relation to the equator, the trade winds, and bodies of water, etc., they will answer intelligently such questions as 4, 5 and 6.

Guessing should be discouraged and definiteness and exactness encouraged; the examiners deducted marks this year for guessing in questions 2 and 9.

The pupil's powers of observation, imagination, and judgment should be trained. This can best be done by teaching well the important things about each topic and using the best known methods; it is a mistake to try to cram in everything the text-book states in a subject so wide in its scope as geography.

MATHEMATICS

The answers showed a marked improvement in the work on the metric tables; but a woeful lack of knowledge of the common commercial tables and a serious weakness in mechanical arithmetic; at least twenty per cent. of the marks were lost through mechanical errors in the simple operations of elementary arithmetic. A more intensive teaching of the common commercial transactions is, accordingly, indispensable.

The teaching of the Algebra is, on the whole, satisfactory, but in Geometry more attention should be paid to giving the particular enunciation and definite references.

ELEMENTARY SCIENCE

Generally speaking, the answers indicate that the subject of Elementary Science is being satisfactorily taught. The outstanding defects of the answers were as follows:

Botany and Zoology

The distinction between genus and species was not clearly shown.

The fruit of the bean was often understood as being the seed only; often also the prothallium of the fern was described as the underground part.

Many of the answers on plant physiology indicate that the experiments are being performed without sufficient attention to necessary details; in some cases, indeed, the answers lead to the conclusion that the experiments had been merely described, not performed. The check experiment was omitted in the answers to Question 2 (b) ii. Teachers do not seem to appreciate the value of the check experiment; it gives the pupil confidence that the result observed is due to the cause ascribed.

The characteristics of the order Orthoptera were not definitely given; merely the structural resemblances of the grasshopper and the cricket were enumerated instead.

Candidates failed to state clearly the mode of locomotion and the life-history of the snake.

Physics and Chemistry

Practical applications of Pascal's Law and of the heating effects of an electric current were merely named or indifferently described.

Explanations of the phenomena in Question 8 (a) were very confused, showing a lack of definite knowledge.

In determining the position of the freezing point, a mixture of ice and salt was too frequently given instead of moist ice or snow.

The check experiment was often omitted in Question 7 (a) ii.

ART

The group in question 2, which should have been represented in angular perspective, was in many cases drawn with one set of lines parallel to the picture plane. The fact that parallel perspective has very great limitations should be carefully noted. Attention should also be called to the fact that a line does not indicate thickness.

In crayon work, black and brown crayons should be used sparingly. Many candidates used black or brown crayons to represent the shadows and the earth in question 2, whereas a blending of other colours would have secured a greater depth of tone.

In many cases several mediums were used in one drawing; for example, ink and pencil tones and lines were found in water-colour sketches; only the medium called for should be used.

The tones in many of the drawings were poorly represented; the relative colour values of objects should be stressed, especially in pencil work.

Candidates are not receiving sufficient instruction in the forms of shadows; in many cases they omitted all shadows.

A flat value or tone in proper relation to the tone of the object should be taught as a background instead of lattice-work or vertical lines.

Improvement is needed in pencil technique; while there are several kinds of good pencil handlings, soft, smudgy, woolly treatment is never acceptable.

The answers to the question on design showed improvement in lettering. Many candidates did not consider the lines of the composition in their relation to the enclosing circle, and many made naturalistic drawings of the lighthouse and its surroundings, whereas the treatment should have been conventional.

In answering question 4, many candidates showed no knowledge of the artistic composition of the picture. This was especially noticeable in their attempts to answer parts (b) and (d). Some viewed the picture as a map in which the east must be to the right and the west to the left. Others again by their use of such expressions as, "the artist has thrown the strongest light upon the middle ox," are incorrectly thinking of the brightly lighted parts of the picture as due to the artist's treatment and not to the real source of the light.

BOOK-KEEPING

The answers showed that Book-keeping is being fairly well taught, but that the work in connection with business forms is not so well taught as the recording of the other business transactions. The explanation of this defect, no doubt, is that the pupils write out many of the exercises and sets in class merely for the sake of completing them; they do not write out the business forms involved in such exercises and sets; attention should be paid to this subject at the school examinations as well.

WRITING

The writing in many series of answer papers is creditable to the schools concerned, showing due emphasis upon the subject in the time-table and a general improvement in the teaching; in some, however, serious defects showed themselves. To secure better writing, the Section makes the following recommendations:

1. Rapid writing of notes in History, Geography, Science, etc., should be avoided, as it is the cause of much careless writing.
2. Written impositions where no real purpose is served by the matter written should not be used for disciplinary purposes.
3. The directions contained in the new Manual should be carefully observed by all teachers.

HOUSEHOLD SCIENCE

There seems to be an improvement in the general character of the answers. In some schools, however, certain branches of the work appear to be neglected, e.g., the theory of sewing. In others, again, many technical and scientific terms are used which are evidently not understood by the candidates. More stress should be laid on the practical side of the course, especially the cooking of common foods.

MANUAL TRAINING

The freehand sketches asked for in several questions were badly done; this defect was pointed out last year. More attention should be given to this part of the course as the ability to convey ideas by means of an intelligible sketch is of great value especially in industrial life.

Another outstanding defect is the mis-spelling of common geometrical and technical terms; drill should be given not only in the defining but in the writing of these terms.

Many candidates wrote more than was required; much irrelevant matter was introduced and in some cases answers were given to questions that were not asked; definite, concise answers were rare.

More attention should be paid to the mechanical construction of tools and the scientific reasons for their present form.

Practice is still required in describing processes. As a rule processes themselves were described correctly but in too many cases the wrong order was given; the successful making of an object depends very largely upon the order in which the steps are taken.

AGRICULTURE AND HORTICULTURE

The answer papers show two main defects:

(1) The answers in general were not systematized or arranged to show the points required, but were placed in the form of a continuous statement without, in many cases, any paragraphing. It is quite apparent that the defect referred to was due not so much to lack of knowledge as to lack of training in arranging this knowledge.

(2) Indications appeared here and there that some of the work had not been practical. This was notably apparent in the first question where eighty per cent. of the candidates did not seem to have ever used a measuring chain, and more than fifty per cent. did not know the meaning of the term "south-east."

(3) More attention should be given to the recognition of the common weeds of the farm.

Middle School

ENGLISH COMPOSITION

The character of the compositions was better this year than last, but many essays show a lack of ideas. Pupils should be encouraged to do more general reading, not only of books but of magazines, and to discuss their contents in class; indeed, Oral composition is an important phase of the subject.

The Section recommends that the teachers of Composition impress upon their pupils the fact that an essay of more than *four* pages is *not* desired.

It recommends also that teachers lay greater stress upon the following:

1. Punctuation.
2. Legible writing; this naturally counts in valuing the paper.
3. The proper division of the words at the end of lines.
4. The proper uses of "shall" and "will."
5. The due proportionate length of the parts of the composition.
6. Writing on not more than one topic.
7. The arrangement of the phrases and clauses in a sentence, so that the meaning may be clear and the sentences forcible.
8. Avoidance of the use of "so" as a connective.
9. Letter-writing.

(See also the Chief Examiner's report under Upper School Composition.)

ENGLISH LITERATURE

Most of our schools had been depleted of their best pupils by the "Farm" examination held at Easter. It was, therefore, not surprising to find the average standing of candidates on the whole lower than heretofore in a subject like Literature, in which the length of the training is usually an important consideration.

Speaking generally, many candidates appeared to have been indifferently trained in English: The literary form of the answer was frequently very poor; sentences were rambling, incoherent, and weak; some candidates used no periods and disregarded the matter of sentence-structure entirely; words were frequently misused; there were numerous mistakes due to carelessness, in spelling and grammar; and in many cases answers were run together without being properly spaced or numbered.

Many candidates showed lack of judgment and precision. They did not grasp the object of a question, and, while some wrote too little, many wrote *more* than the question required and, as a consequence, found themselves lacking time. Definite, concise, apt answers were rare; pupils should be trained *how* to answer questions and the training should take the form of *written* exercises. It was the opinion of the Section that a surprisingly large proportion of the candidates showed themselves unfit to enter a Normal School without further High School training.

The Section calls special attention to the following questions the answers to which were unsatisfactory:

1. The quotation from memory (Question 1) was almost invariably inaccurate either in wording or in form; defects which show that these passages were not *written out* by the candidates during their school course.

2. In Question 2—a type question—many candidates showed a tendency to paraphrase the passage rather than give exactly the connection required.

3. Great ignorance of metre was shown; some candidates stated that the subject had never been taught in their schools. There was also a failure to show much knowledge of the main differences between prose and poetry as tested by 5 (b). Due emphasis on this part of the course would add materially to the pupils' appreciation of poetry.

HISTORY

British and Canadian

On the whole, this subject seems to be well taught in most schools except in the case of the history of the War.

The form of the answers was in general good; there were fewer tabulated answers without explanations than heretofore; but certain schools still seem to adhere to this method. History should not be regarded as the mere enumeration and memorization of facts; in particular, pupils should be taught to discover the relation between cause and effect.

In many cases the answers to the geographical question were inaccurate and indefinite.

The questions on the War were very poorly answered; candidates seemed to have very vague ideas on the subject.

The other questions on the paper were very well answered, with the exception of 5 (*b*) and 6 (*c*). More stress should be placed on Civics.

Ancient

The candidates did poorly at the examination on this subject, probably because of the "Farm" privilege which had taken away the best pupils; possibly also because of the use of two texts. The Section finds that the new text, while it carries more interest with it, presents difficulties that place more responsibility on the teacher.

The Section notes, too, that in questions which required candidates to work over the facts and select such as are pertinent, too many failed to grasp the plain object of the question.

ALGEBRA

As in previous years, this Section must still press for greater attention to the form of the graphic work. The axes and origin are frequently left unmarked, positive and negative directions are confused, *X* and *Y* values are interchanged, and points and lines are left unnamed. During the past year or two the examiners have been requiring more exactness of work, and next year's examiners will be justified in rejecting answers that show this defect.

GEOMETRY

It is apparent that in some places careful, accurate constructive work has not received proper attention.

Evidently also the propositions of Bk. V. have not received their due share of attention.

The description of problems showed an improvement, but definite reference to previous problems would often shorten the work.

A proper introduction to propositions was often neglected, evidently owing to lack of proper emphasis in the class-room.

The use of numbers to designate points is confusing to an examiner.

Faulty spelling of geometrical terms was too common; for example, *bysect*, *biscet*, *isoxceles*, *parralel*, *proove*, *similiarily*, etc.

PHYSICS

Generally speaking, the candidates' answers were satisfactory. Failure to describe experiments with sufficient detail was, however, again noticeable. Few described the telephone satisfactorily.

CHEMISTRY

As a general rule, the diagrams of apparatus were poorly made.

Mere statements instead of answers in the form of experiments cost the candidates many marks.

Historical experiments should not be given instead of suitable school laboratory experiments; for example, Cavendish's experiment for the manufacture of nitric acid, Priestley's experiment for the preparation of oxygen.

Formulæ should not be used instead of the names of substances; nor should equations alone be used to describe chemical reactions; for such defects, marks were deducted.

Questions 3 (c), 5 (b), 7 (a), (b), (c), were poorly answered.

LATIN

It would be unfair to the teachers of Latin in this Province to judge the character of the work done in the schools from the answers of this year's candidates; very many of the best pupils passed this examination at Easter and went to work on the farms.

The translation of the selections from Vergil was as good as usual; but the average pupil's work in Vergil seems to have ended with preparing a translation; he could not explain the syntax of a certain noun or adjective or tell the reason for the mood of a certain verb; in this respect the answers of this year's candidates were unusually poor. The scansion was better.

The Cæsar was not translated so well as usual. The selection from Book IV proved to be too difficult for most of the candidates. Teachers should discourage a literal translation of the ablative absolute; such translations as "He urged them, the signal being given, to rush out" cannot be accepted; translations into idiomatic English are required.

The translation from English into Latin was good, but the questions on the Grammar were not well answered. Very few candidates gave correctly the infinitives and participles of *relinquo*; six infinitives and four participles were expected; such forms should be taught systematically, using the outline plan given on pages 462 and 463 of the new High School Latin Grammar.

ART

Many candidates were placed at a disadvantage through the use of very inferior colours.

Very many showed complete ignorance of the common terms and simple facts of perspective.

The answers to the questions on design showed great differences in the candidates' acquaintance with the principles involved.

The answers to the questions involving lettering evidenced a great advance in the teaching of this department of Art.

AGRICULTURE AND HORTICULTURE

The answers showed defects similar to those pointed out in the case of the Lower School examination, but to a smaller extent.

Upper School

FACULTY ENTRANCE

ENGLISH COMPOSITION

In order that the importance of English Composition may be duly recognized in the schools, it should be clearly understood that a higher standard will be set hereafter.

There is still room for great improvement in matters of form; the writing in many cases was very slovenly and often very hard to read; punctuation too was frequently unsatisfactory.

The Examiner-in-chief adds the following comments:

In my opinion the most common fault is defective sentence-structure. Some candidates seem to have practically no idea of what a properly constructed sentence should be. Subordinate ideas are often expressed in co-ordinate structure, and the main idea is not infrequently expressed in a subordinate clause. The teachers should require a more intensive study of sentence-structure and more constant practice in writing properly formed sentences. Only by this means will the pupil develop a critical attitude towards his own sentence-structure. Half the battle for good writing would be won if the pupil could be trained to be conscious of the defects in his construction of sentences. Compulsory re-writing in amended form of defective sentences is an excellent form of discipline in composition. The re-writing of a whole composition after consultation with the teacher would often be a better exercise than the writing of a new composition.

ENGLISH LITERATURE

Satisfactory improvement was shown in the matter of two points referred to in last year's report; namely, the localization of passages and the lining of poetical quotations.

Candidates should be warned that heavy deductions are made for tabulated answers which merely enumerate the points involved in the answer.

In the matter of form, while many candidates show careful training, too many used abbreviations, colloquialisms, and other crude forms of expression. The remedies are wider reading and more practice in both oral and written composition.

HISTORY

First Course

The answers were fairly good, but in certain questions the candidates did not answer separately the different parts of the question.

A number did not attempt to locate the places on the outline map, and the Section would urge the teachers to stress the geography of Europe in connection with the present war in particular.

Second Course

The answers generally were excellent in style and showed a good knowledge of the work. In some, however, there was a tendency to introduce irrelevant matter, and the answers to the question on the geography of the present war showed a lack of definite knowledge.

MATHEMATICS

In Algebra nothing special is reported. The answers to the various questions showed that the subject is well taught.

In Geometry the answers were very intelligent, showing that the teaching of the subject is satisfactory.

In Trigonometry the answers were generally satisfactory. The graph required in Question 2 was very poorly drawn in a number of cases. Some candidates evidently did not know what is meant by a graph.

The Examiner-in-Chief reports that the answers in the analytical part of the paper might often be more intelligent; candidates show a tendency to quote equations without any explanation of their meaning and to undertake operations with these equations without a proper interpretation of the steps taken. Too great emphasis cannot be placed upon the importance of intelligent work in Analytical Geometry.

PHYSICS

The teaching of the subject seems to have been well done in the majority of schools.

The most outstanding defect in the candidates' answers was inaccuracy in the wording of definitions and principles; in many cases this caused the candidate to miss one of the main points; both definitions and principles should be learned word for word as soon as they are understood.

In the description of experiments, it would seem that many of those who probably performed the experiments did not take time to write descriptions of them; the result was bungled and inaccurate wording.

In stating the solutions to the problems there was a good deal of carelessness; while minute details in geometrical work is not expected, units should be stated and solutions should show clearly the line of thought in the candidate's mind.

CHEMISTRY

On the whole, the candidates' answers show that the subject is being well taught. Individual cases, however, reveal the following defects:

1. Some had not an adequate knowledge of the commercial Chemistry.
2. The relation between the volume and the weight of gases, Question 6 (c) was not thoroughly understood.
3. In comparing elements and in distinguishing by tests in Question 4 (a) and (b), there was much loose statement.
4. Judging from the answers to Question 7, the observation side of Chemistry should be given more attention.

MINERALOGY

All the questions were fairly well answered by all candidates, with few exceptions, showing that the work is being taught practically.

BIOLOGY

Botany

The following report by the Examiner-in-chief is submitted for the consideration of the teachers of Upper School Botany:

Question 1 (a): Few candidates made the comparison required; the natural inference is that teachers are not making sufficient use of this excellent method.

(b): In few of the papers which I read was the answer satisfactory. Many of the candidates knew the two kinds of plants, but their powers of observation out-of-doors, and of generalization seemed to have been poorly cultivated.

2 (a): This is the same kind of question as 1 (a), but the comparison required is much wider in scope, and also much more thorough in nature. The characteristics of these great groups can scarcely be taught except by contrast.

(b): Similar criticisms apply here.

3 (a): A fundamental distinction, which was long observed throughout the history of Botany, is that between what were called Phanerogams and Cryptogams. We now know that the true meaning of these terms is in exact opposition to botanical facts. Accordingly, in their place we now use "flowering plants" and "flowerless plants", or "seed-bearing plants" and "seedless plants". Many candidates can give a hazy definition of a flower and of a seed, but when asked to show that their definitions apply to a flower and seed-bearing plant, they show that they really do not know what a flower or a seed is. And some of the teachers may be in the same predicament. Here, again, the method by comparison has apparently not been used in teaching.

(b): Pupils of this grade are required to make a practical study of fifteen families of plants. Thirteen of these form a natural series, the complexity in structure of flowers increasing from one to the other when properly arranged, as they are in all modern floras. It certainly is not too much to expect that candidates should know that the flower of a conifer is simpler than that of a buttercup, and that of a buttercup than that of a composite; the floral structure is the key to the success or failure of plant families.

4. Apparently, in some schools the natural science of botany is taught in an unnatural way; dead plants, far from where they grew, seem to be the objects studied, and the reasons for their peculiarities of structure can be only guessed at. Question 4 suggests that pupils should compare plants growing in one environment with those growing in another. Field work is, accordingly, an essential part of any intelligent course in Botany. It should be taken up as soon as the pupil has an elementary working knowledge of the subject. Pupils under a qualified leader, studying plants, animals, and minerals, will find every field day full of interest and information; such work should be carried on at first at least under the direct guidance of the teacher and later under his instructions by the pupils themselves, in both cases the results being discussed fully in class.

As to knowledge of structure, the students in Zoology study the skeleton, and the paths of liquids and gases in the animal body,—why not study the plant skeleton, and the paths of the liquids and gases through the plant body? The distinctions in the anatomy of water plants when they are compared with land plants are not more than is implied in the terms "tissues", "tissue systems", "cellular structure", "morphology", "physiology", "ecology", and "plant associations", which are used in the description of the courses of study in the Departmental regulations.

5 (a) and (b): The explanations in the papers read were extremely hazy.

6 (a): Buds and twigs are considered as Lower School work. Since, however, they are the structures which perform the annual miracle of clothing our deciduous trees with leaves and flowers and fruit, and in which all extension in length above ground occurs, they should be studied in Upper School Botany as well. How can "growth" be studied except in connection with twigs and buds?

7. The very first lesson in Botany might well be based on a Mullein leaf and

a Maple leaf. Any person who reads such a work as Coulter's *Plant Relations* must agree that Plant Ecology is, in due moderation, an excellent part of Botany with which to begin. It is perfectly true, however, that an extensive course in Botany may well terminate with more Plant Ecology.

In general, my impression obtained from reading some of the June papers and all the August papers is that, in some at least of the schools, the teaching of Botany follows a book, and that the book has decided what and how much shall be taught. One of the books most frequently used is, I understand, the *Principles of Botany*, by Bergen and Davis. The chief fault in this book is the disproportionate space given to the discussions of seedless plants and the poverty of the discussion of seed-bearing plants. Dr. Davis is a specialist in Algæ, and his work is well done, but it crowds out what, in a High School Botany, should be a reasonable provision for a first course in the study of plant anatomy, physiology, and ecology.

Zoology

The life history of the grasshopper was not well answered by most candidates, and in the case of the potato beetle, clam, and bee, the answers did not show a clear understanding of the method of feeding.

Candidates as a rule had evidently not observed the wave-like motion of the foot of the snail in locomotion.

The structure and function of the leg of the bat and flying squirrel were not given fully in most papers.

All the other questions were well answered and indicated that the course in Zoology is well taught in the great majority of cases.

LATIN

The candidates' answers to the Authors question paper were considerably better than in 1916 and 1917; the work is evidently being well taught in the schools.

The above remarks apply to the Composition paper also.

GREEK

The questions on the Authors paper were, for the most part, answered satisfactorily. Though the number of candidates taking Greek is becoming smaller every year, the teachers show the same zeal and ability in the teaching of the subject as they did in the days of its popularity.

The above remarks apply to the Composition paper also.

FRENCH

Many candidates showed carelessness in spelling even the commoner words. Some displayed a serious lack of knowledge in their use of prepositions in English.

A few translations were too literal: The teaching has evidently been thorough so far as concerns getting the pupils to grasp the ideas; but more frequent written tests should be given throughout the year.

GERMAN

In the answers to the paper on Authors, many candidates indulged in so free a translation that they violated the spirit of the passage; it appears also that the verbs have not been well mastered.

In the paper on Composition, some of the candidates showed poor preparation, owing, perhaps, to the fact that they had had very little over one year's instruction in the subject. There is much carelessness in the use of the prepositions, in the agreements, and in the order of words; and the compound tenses of the Modal Auxiliaries should be more fully taught.

APPENDIX

THE CONDUCT OF THE DEPARTMENTAL EXAMINATIONS

FOR THE INFORMATION AND GUIDANCE OF TEACHERS, INSPECTORS, AND PRESIDING OFFICERS

Recognizing the difficulty of determining by means of one final examination test the academic standing of candidates, the Department of Education has made such regulations for conducting the test as will in its judgment safeguard the interests of the candidates as well as those of the public. The name of the candidate is concealed from the examiners by the assignment of a number, and the subsequent identification of his answers by the Departmental clerks is assured by reference to the name slips, with his number thereon, after they have been detached from the envelopes. Hence the necessity for the exercise of great care on the part of the candidates in entering their names on the slips and attaching them to the envelopes, and the instruction that they shall not enter on their answer papers their names or any other marks that might lead to identification. Thoroughness and uniformity in the valuation of the answers are assured by the care with which the schedules of valuations are prepared in advance by the most experienced of the examiners and by the supervision of the chairmen of the sections over the work of the associate examiners in applying these schedules. In all but the smaller sections the whole time of the chairman is thus employed, and in the larger sections he is assisted by a committee. The reappointment of the chairman and other members of the section for continuous periods of three years or more tends to maintain the necessary uniformity from year to year, and in all reappointments preference is given to those who have proved themselves to be the most reliable examiners.

After the results are tabulated by the Departmental clerks, it is invariably found that a good many candidates fail by a narrow margin. To determine finally the fitness of these to receive certificates, their answer papers are re-read by the Examiners-in-Chief and the results considered in connection with the teachers' reports. The following table shows the result of these precautions as applied to the Midsummer Departmental academic examinations of 1918:—

	Lower School.	Middle School.	Upper School.
Total number of candidates	3,373	1,944	549
Number of candidates whose papers were re-read	300	216	58
Number passed on re-reading	204	104	28
Number of schools submitting Teachers' Reports.	302	269	104
Number of these reports considered in awarding certificates	143	104	31
Number of candidates passed by reason of Teachers' Reports	244	200	44

The teachers' reports are also considered in the cases of all those candidates who had been prevented from writing on the examinations in whole or in part on account of illness or for other cogent reasons satisfactory to the Minister. In such cases candidates who had written on the major portion of the examination are passed and others are admitted to a professional school without certificates, provided that the examination results of the school and the report of the teachers'

estimate, when considered together, justify the conclusion that, except for the special circumstances reported, the candidates would have passed, and provided also that the prescribed evidence of such special circumstances is submitted immediately at the close of the examination. In 1918 such special cases were considered, with the following results:—

	Lower School.	Middle School.	Upper School.
Number of special cases reported	48	63	11
Number who passed on the marks obtained at the examination	7	19	3
Number who were granted certificates in view of the special circumstances reported	3	3	1
Number who were granted admission to a training school without certificates	1	4	0

In the majority of the special cases in which standing was not granted the candidates had not been recommended by their teachers, and in the cases of a few candidates recommended, the teachers' reports and the examination results of the school concerned, when considered together, did not justify the assumption that the candidates would have passed.

Experience shows that many of the difficulties that arise may be avoided by the exercise of greater care on the part of inspectors, presiding officers, teachers, and candidates. The inspectors may assist by nominating the best available presiding officers, taking care that the instructions are understood by those who have been appointed for the first time, and by a scrupulous observance themselves of all the Departmental regulations. The presiding officers may assist by exercising judgment and vigilance in carrying out fully their instructions, particularly as to instructing candidates in advance, commencing and closing the examinations punctually, insuring proper conditions in the rooms, taking steps to prevent even the appearance of collusion between candidates, and in arranging for the prompt dispatch of the answer papers at the close of the examination. The teachers also may assist by carefully instructing the candidates in advance as to the proper method of using the examination books, the wisdom of avoiding even an appearance of collusion, and care in making their answers clear and legible, and especially by submitting reports which correctly estimate the standing of their candidates.

Each year difficulties arise under most of the above heads: Presiding officers have turned out to be careless or otherwise incompetent, unjustifiable deviations have been made from the provisions of the time-table, examination books containing candidates' answers have been left unnoticed on the desks, candidates have been detected in collusion with the result that their examinations have been cancelled, and others have suffered owing to the absence of their rough work or the lack of clearness and legibility in their answers, or owing to the unreliable rating in the teachers' reports.
